

Remarks

Reconsideration and allowance of the subject application are respectfully solicited.

Claims 17-20 and 27-30 remain pending in the application, with Claims 17 and 27 being independent. Claims 17 and 27 have been amended herein.

Initially, Applicant's undersigned attorney wishes to thank the Examiner for the courtesies extending during the telephonic interview of April 20, 2005. During that interview, the outstanding rejections were discussed, as summarized below.

Claims 27-30 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In particular, the Examiner suggested that the feature of no vessel utilizing a substance other than pure water being provided between ultraviolet exposure means and a washing vessel is not supported by the original disclosure. As discussed during the interview, Applicant respectfully disagrees. In the original specification at the paragraph beginning at page 4, line 24, it is described that the irradiation with ultraviolet rays is performed "immediately before the wet-cleaning with pure water of the substrate." Furthermore, the embodiments in Figs. 1 and 2 depict an ultrasonic cleaning vessel 5 using pure water or spray nozzles 9 directly adjacent to ultraviolet ray-irradiation unit 1. Thus, the feature of no vessel utilizing a substance other than pure water being provided between ultraviolet exposure means and a washing vessel is clearly supported by the original disclosure.

During the interview, the Examiner also expressed concern that the noted feature was written as a "negative limitation." However, as noted in M.P.E.P. § 2173.05(i),

there is nothing inherently ambiguous or uncertain about a negative limitation. Because the noted feature has clear support in the specification, the claim should not be rejected under § 112. Reconsideration and withdrawal of the § 112, first paragraph, rejection are requested.

Claims 17-20 and 27-30 were rejected under obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 6,651,680. This rejection is traversed.

As is recited in independent Claim 17, the present invention relates to an apparatus for washing glass substrates. The apparatus includes holding means, ultraviolet exposure means, a cassette and an ultrasonic washing vessel. The holding means bears a glass substrate having thereon a transparent electrode. The ultraviolet exposure means irradiates the surface of the transparent electrode on the glass substrate borne by the holding means with ultraviolet rays. The cassette is adapted to receive plural sheets of the glass substrate irradiated with ultraviolet rays. The ultrasonic washing vessel is adapted to receive the cassette having the glass substrate irradiated with ultraviolet rays and dip the plural sheets of the glass substrate in pure water and wash the glass substrate under application of ultrasonic waves. No vessel utilizing a substance other than pure water is provided between the ultraviolet exposure means and the washing vessel. Further, pure water is used as the sole aqueous washing medium

As is recited in independent Claim 27, the present invention relates to an apparatus for washing glass substrates. The apparatus includes holding means, ultraviolet exposure means, a cassette and a washing vessel. The holding means bears a glass

substrate having thereon a transparent electrode. The ultraviolet exposure means irradiates the glass substrate borne by the holding means with ultraviolet rays. The cassette is adapted to receive plural sheets of the glass substrate irradiated with ultraviolet rays. The washing vessel is adapted to receive the cassette having the glass substrate irradiated with ultraviolet rays and dip the plural sheets of the glass substrate in pure water and wash the glass substrate under application of ultrasonic waves. No vessel utilizing a substance other than pure water is provided between the ultraviolet exposure means and the washing vessel and pure water is used as the sole aqueous washing medium.

As discussed previously, the claims of US '680 recite features not recited in Claim 17 or Claim 27, and the conflicting claims are believed to be patentability distinct from one another. Nevertheless, in order to expedite allowance, once the double patenting rejection is deemed to be the sole rejection remaining in the application, a terminal disclaimer will be submitted.

Claims 17-20 and 27-30 were rejected under 35 U.S.C. § 103 as being unpatentable over Japanese Laid-Open Patent Application No. 63-271938 (Shindo) in view of U.S. Patent No. 5,071,488 (Takayama et al.). This rejection is also respectfully traversed.

As discussed during the interview, Shindo is not believed to explicitly disclose that no vessel utilizing a substance other than other than pure water is provided between ultraviolet exposure means and a washing vessel. In order to further distinguish the claims from Shindo, independent Claims 17 and 27 have been further amended to recite that pure water is used as the sole aqueous washing medium. Shindo describes using pure

water in conjunction with other cleaners or using hydrogen peroxide only, isopropyl alcohol only, or hydrogen peroxide and isopropyl alcohol. Shindo does not teach or suggest the above-noted features.

Accordingly, Shindo fails to disclose or suggest important features of the present invention recited in independent Claims 17 and 27.

Takayama et al. was cited for teaching the use of cassettes for immersing substrates in treatment vessels. However, Takayama et al. is not believed to disclose those features noted above as being deficient in Shindo. Thus, Takayama et al. fails to remedy the deficiencies of Shindo noted above with respect to the independent claims.

Thus, independent Claims 17 and 27 are patentable over the citations of record. Reconsideration and withdrawal of the § 103 rejection are respectfully requested.

For the foregoing reasons, Applicant respectfully submits that the present invention is patentably defined by independent Claims 17 and 27. Dependent Claims 18-20 and 28-30 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and reduce the number of issues, and is believed to clearly place this application in condition for allowance. This Amendment was not earlier presented because Applicant earnestly believed that the prior Amendment placed the subject application in condition for allowance. Accordingly, entry of this Amendment under 37 CFR 1.116 is respectfully requested.

Applicant submits that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark A. Williamson", written over a horizontal line.

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